UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/590,027	06/07/2000	Steven R. Kleiman	103.1037.01	8740

22883   7590   06/03/2003

SWERNOFSKY LAW GROUP PC
P.O. BOX 390013
MOUNTAIN VIEW, CA   94039-0013

EXAMINER
NGUYEN, CHAU T

ART UNIT	PAPER NUMBER
2142	5

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No. 09/590,027	Applicant(s) KLEIMAN, STEVEN R.
Office Action Summary	Examiner Chau Nguyen	Art Unit 2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>07 June 2000</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-27</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   Claims 1-27 are presented for examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-20 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liberty, U.S. Patent No. 6,275,900 and further in view of Goldrian et al. (Goldrian), U.S. Patent No. 6,026,448.

4.   As to claim 1, Liberty discloses a method, including steps of

sending data between a client and a server at an address agreed by said client and said server (col. 6, lines 14-38: communicating data between a client node and a home node (server node), generating at the client node of the plurality of nodes of the computer system data request with a real address of memory);

wherein said steps of sending data are responsive to a request or a response

between said client and said server (col. 10, lines 38-58);

However, Liberty does not disclose wherein said steps of sending data are

asynchronous with regard to said request or said response.   In the same field of

endeavor, Goldrian discloses response messages have to be sent from the receiver

SAP independently (asynchronously) of the request messages from the sender SAP

(col. 9, line 64 – col. 10, line 5).   Since Goldrian teaches a method for exchanging

messages between a multitude of computer system, whereby the sender's system

memory is used as a buffer for the message to be transferred, which is similar to a

hybrid non-uniform memory architecture / simple cache only memory architecture

(NUMA/S-COMA) for sending data communication to or receiving data communication

from another node of the plurality of nodes of a computer system of Liberty, it would

have been obvious to one of ordinary skills in the art at the time the invention was made

to combine the teachings of Liberty and Goldrian to include sending data are

asynchronous with regard to said request or said response.   Goldrian provides a

method and means for intersystem message passing allowing for a low latency data

transfer and avoiding difficult arbitration, routing and time-out procedures.

5.   As to claim 2, Liberty and Goldrian (Liberty-Goldrian) disclose wherein said

request or said response includes at least some control information (Liberty, col. 6, line

54 – col. 7, line 20); and

said steps of sending data are responsive to said control information (Liberty, col. 10, lines 36-58).

6.   As to claim 3, Liberty-Goldrian disclose wherein said request or said response includes at least one memory address (Goldrian, Abstract, col. 4, line 1 – col. 5, line 4);

said steps of sending data are responsive to said memory address, wherein said data is read from or written to a memory in response to said memory address (Goldrian, Abstract, and col. 2, lines 26-57).

7.   As to claim 4, Liberty-Goldrian disclose a system including

a client and server (Liberty, Abstract, and Fig. 4);

a NUMA communication link coupled to said client and server (Liberty, Abstract, and Fig. 4);

a request from said client to server or a response from said server to client (Liberty, col. 6, lines 14-38: communicating data between a client node and a home node (server node), generating at the client node of the plurality of nodes of the computer system data request with a real address of memory); and

a data transfer between said client and server (Liberty, col. 10, lines 38-58);

wherein said data transfer has a time that is decoupled from a time of said request or response (Goldrian, col. 9, line 64 – col. 10, line 5); and

wherein said data transfer has a location that is mutually agreed between said client and server (Liberty, col. 6, lines 14-38: communicating data between a client node

and a home node (server node), generating at the client node of the plurality of nodes of the computer system data request with a real address of memory);

8. As to claim 5, Liberty-Goldrian disclose a byte serial communication link (Liberty, col. 13, lines 47-55).

9. As to claim 6, Liberty-Goldrian disclose wherein either said client or server performs processing of information in said data transfer (Liberty, col. 10, lines 51-58);

said processing is performed in an order convenient to both said client and server (Goldrian, col. 9, line 64 – col. 10, line 5); and

said order is decoupled from an order of said data transfer (Goldrian, col. 9, line 64 – col. 10, line 5).

10. As to claim 7, Liberty-Goldrian disclose wherein said data transfer is responsive to control information in said request or response (Liberty, col. 10, lines 36-58).

11. As to claim 8, Liberty-Goldrian disclose wherein said data transfer is responsive to said request or response (Liberty, col. 10, lines 51-58).

12. As to claim 9, Liberty-Goldrian disclose wherein said data transfer uses said NUMA communication link (Liberty, col. 10, lines 38-50).

13.   As to claim 10, Liberty-Goldrian disclose wherein said mutually agreed location is responsive to control information in said request or response (Liberty, col. 10, lines 38-58).

14.   As to claim 11, Liberty-Goldrian disclose wherein said request or response uses said byte serial communication link (Liberty, col. 13, lines 47-55).

15.   As to claim 12, Liberty-Goldrian disclose a system including a server, said server having a memory including a client communication region and data transfer region (Liberty, col. 5, line 58 – col. 6, line 38);

        a remote DMA communication link coupled to said data transfer region (Goldrian, Abstract, and col. 8, line 40 – col. 9, line 49) ;

        said client communication region including information regarding a data transfer into or out of said data transfer region (Goldrian, Abstract, and col. 8, line 40 – col. 9, line 49);

        said data transfer being decoupled in time from said client request region (Goldrian, col. 9, line 64 – col. 10, line 5).

16.   As to claim 13, Liberty-Goldrian disclose a byte serial communication link coupled to said client communication region (Liberty, col. 13, lines 47-55).

17.   As to claim 14, Liberty-Goldrian disclose a processing element is said server coupled to said data transfer region, said processing element responsive to a request from a client or a response to a client (Goldrian, col. 9, line 64 – col. 10, line 5).

18.   As to claim 15, Liberty-Goldrian disclose a processing element in said server coupled to said data transfer region, said processing element responsive to control information in said client communication region (Goldrian, col. 9, line 64 – col. 10, line 5).

19.   As to claim 16, Liberty-Goldrian disclose a processing element in said server coupled to said data transfer region, said processing element using information if said data transfer region independently of said remote DMA communication link (Goldrian, col. 4, lines 1-26 and col. 9, line 64 – col. 10, line 5).

20.   As to claim 17, Liberty-Goldrian disclose a request from a client or a response to said client having information regarding a location within data transfer region (Liberty, col. 10, lines 36-58).

21.   As to claim 18, Liberty-Goldrian disclose wherein said client communication region stores a request from a client or a response to said client (col. 6, lines 14-38: communicating data between a client node and a home node (server node), generating

at the client node of the plurality of nodes of the computer system data request with a real address of memory).

22.   As to claim 19, Liberty-Goldrian disclose wherein said data transfer region stores a data transfer to or from a client (Goldrian, Abstract, and col. 2, lines 26-57).

23.   As to claim 20, Liberty-Goldrian disclose wherein said remote DMA communication link includes a NUMA communication link (Goldrian, col. 4, lines 1-19 and col. 7, lines 15-29).

24.   Claims 26-27 have similar limitations as discussed in claims 1-11 above; therefore, they are rejected under the same rationale.

25.   Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liberty and Goldrian as discussed above in claims 1-20 and 26-27, and further in view of Krueger et al. (Krueger), U.S. Patent No. 6,247,041.

26.   As to claims 21 and 25, Liberty-Goldrian disclose the claimed invention as discussed in claims 1-20 above. However, Liberty-Goldrian do not disclose a method including communicating file system or database requests and responses between a client and a file server or a database server. In the same field of endeavor, Krueger discloses a parent process 44 makes a request to operating system 32 for a set of

nodes that contain a specified system resource and the system resource can be a file, shared-memory segment, or a device (tape drive, disk drive, processor, etc.) (col. 6, line 63 – col. 7, line 27). Since Krueger discloses a system uses a computer architecture based on Distributed-Shared memory (DSM) and is a non-uniform memory access (NUMA) machine, which is similar to the systems of Liberty and Goldrian, it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine the teachings of Krueger and Liberty-Goldrian to include a method including communicating file system or database requests and responses between a client and a file server or a database server to allow processors in any node to access the memory resident in any other node.

27.   As to claim 22, Liberty-Goldrian and Krueger (Liberty-Goldrian- Krueger) disclose wherein said memory access operation includes a DMA operation (Goldrian, col. 4, lines 1-19 and col. 7, lines 15-29).

28.   As to claim 23, Liberty-Goldrian- Krueger disclose wherein said memory access operation includes a remote DMA operation (Goldrian, col. 4, lines 1-19 and col. 7, lines 15-29).

29.   As to claim 24, Liberty-Goldrian- Krueger disclose wherein said client includes a database server (Krueger, col. 10, lines 40-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau Nguyen whose telephone number is (703) 305-4639. The Examiner can normally be reached on Monday-Friday from 7:30am to 4:30pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Powell, can be reached at (703) 305-9703.

The fax phone numbers for the organization where this application is assigned are as follows:

(703) 746-7238   (After Final Communications only)

(703) 746-7239   (Official Communications)

(703) 746-7240(for Official Status Inquiries, Draft Communications only)

Inquiries of a general nature relating to the general status of this application or proceeding should be directed to the 2100 Group receptionist whose telephone number is (703) 305-3900.

MARC THOMPSON

Chau Nguyen   Marc Thompson
Patent Examiner   Patent Examiner
Art Unit 2142   Art Unit 2142

703.308.6750